OIPE JC17
MAR 18 2003
PATENT & TRADEMARK OFFICE

REMARKS/ARGUMENTS

1. In the above referenced Office Action, the Examiner rejected claims 1 - 6 under 35 USC § 102 (b) as being anticipated by Dinwiddie (U.S. Patent No. 6,481,013); and claims 7 - 18 under 35 USC § 103 (a) as being unpatentable over Dinwiddie (U.S. Patent No. 6,481,013) in view of Young (U.S. Patent No. 6,434,644). In addition, the Examiner rejected claims 7 - 18 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Examiner also objected to claims 1 - 18 for informalities. These rejections and objections have been traversed and, as such, the applicant respectfully requests reconsideration of the allowability of claims 1 - 4, 7 - 10, and 13 - 16.

2. The objections to the claims and the 35 USC § 112, second paragraph, rejections have been corrected.

3. Claims 1 - 6 have been rejected under 35 USC § 102 (b) as being anticipated by Dinwiddie (U.S. Patent No. 6,481,013). With the amendments made to claims 1 - 3, the applicants believe that Dinwiddie does not anticipate the amended claims and state the following.

Dinwiddie discloses the USB IrDA Bridge Device Definition (column 12, lines 9 and 10) as is also disclosed in the background section of the present patent application (page 2, lines 6 - 25). Dinwiddie further discloses that transaction sequencing between the microprocessor 134 and the user PC 45 is governed by the USB protocol while

transaction sequencing through the network is governed by the IrDA standard protocol. The background of the present patent application discloses, at page 2, lines 9 - 19,

> The USB/IrDA Device was specified to include a USB device controller, USB interface firmware, USB/IrDA bridge device firmware, IrDA interface firmware, and an IrDA transceiver. In general, the USB/IrDA Device was to receive data from a host (e.g., a computer) in accordance with the USB data transport protocol. As such, the host packetizes the data and sends the packets to the USB/IrDA Device. Upon receiving the packets, the USB device controller reconstructs the data and, via the USB interface firmware, provides the reconstructed data to the USB IrDA bridge device firmware. The USB IrDA bridge device firmware processes the data in accordance with an IrDA data transport protocol (e.g., slow or fast IR) to produce a frame of IR data. The IR data is provided to the IrDA transceiver via the IrDA interface firmware.

As such, the USB to IR teachings of Dinwiddie is in accordance with the standard and thus suffers the problems mentioned in the background section of the present patent application, which include significant processing resources to facilitate the USB/IrDA functionality.

Further, the standard, as taught by Dinwiddie, does not have the processor of the host format the data first in accordance with the IR standard and then packetize the IR formatted data via the USB standard as disclosed in the present patent application. The USB packets are then transmitted via a USB port to a USB/IR module that depacketizes the USB packets to recapture the IR formatted data. The IR formatted data this then IR encoded and the IR encoded and IR formatted data is transmitted via an LED. (See figures 1 - 3 and corresponding text.)

On the receiving end, as claimed, the reverse process is followed. The IR encoded and IR formatted data is received and then IR decoded to recapture the IR formatted data. The IR formatted data is then USB packetized and the USB packets are transmitted via a USB port to a USB processor. The USB processor depacketizes the USB packets to recapture the IR formatted data. The host processor then decodes the IR formatted data to recapture the original data. The extra steps of having the host processor format the data in accordance with an IR data transport protocol and subsequent decoding is not taught or suggested by Dinwiddie. Further, such processing by the host substantially reduces the processing required by the USB/IR device.

For the foregoing reasons, the applicants believe that claims 1 - 4 overcome the cited 35 USC § 102 rejection.

4. Claims 7 - 18 have been rejected under 35 USC § 103 (a) as being unpatentable over Dinwiddie (U.S. Patent No. 6,481,013) in view of Young (U.S. Patent No. 6,434,644). The applicants believe that the reasons that distinguish claims 1 - 4 over Dinwiddie are also applicable is distinguishing claims 7 - 10 and 13 - 15 over the present 35 USC § 103 rejection.

While Young teaches memory for storing operational instructions, the combination of Young and Dinwiddie fails to teach having the host processor format the data in accordance with an IR standard prior to packetizing the data in accordance with the USB standard and the corresponding reverse process on the receiving end.

Therefore, the applicants believe that the present 35 USC § 103 rejection is overcome.

OIPE JC178 MAR 18 2003 PATENT & TRADEMARK OFFICE

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please delete claims 5, 6, 11, 12, 17, and 18 without prejudice.

Please amend claims 1 - 3, 7 - 9, and 13 - 15 as follows:

1. (amended) A method for recovering data that was transported utilizing multiple data transport protocols, the method comprises the steps of:

[a)] receiving infrared (IR) encoded and IR formatted data via an IR transmission path;

[b)] IR decoding the IR encoded and IR formatted data [in accordance with a second data transport protocol of the multiple data transport protocols] to recapture [first] IR formatted data, wherein the IR formatted data includes [and first data] IR transport identifying information; [and]

packetizing the IR formatted data in accordance with universal serial bus (USB) data transport protocol to produce USB packets;

transporting the USB packets via a USB port to produce transported USB packets;

depacketizing the transported USB packets to recapture the IR formatted data; and

[c)] decoding the [first] IR formatted data in accordance with [a first] an IR data transport protocol [or the

multiple data transport protocols] based on the [first data transport] IR identifying information to recover data.

2. (amended) The method of claim 1[, wherein the multiple data transport protocols include] further comprises:

the IR data transport protocol including [at least two of: slow speed universal serial bus (USB), an infrared transport protocol, fast speed USB,] slow IR in accordance with an IrDA specified infrared data transport protocol, medium IR in accordance with the IrDA specified infrared data transport protocol, fast IR in accordance with the IrDA specified infrared data transport protocol, and amplitude shift keying (ASK)[.]; and

the USB data transport protocol including a slow speed USB data transport protocol and a fast speed USB data transport protocol.

3. (amended) The method of claim [2] 1, wherein the [first data transport protocol is the slow IR, medium IR, or the fast IR in accordance the IrDA specified infrared data transport protocol and the second data transport protocol is the slow speed USB or the fast speed USB, and wherein step (b)] IR decoding of the IR formatted data further comprises decoding an IR frame delineation information as the [data transport] IR identifying information.

7. (amended) A data communication device comprises:

a processing module; and

memory operably coupled to the processing module [device], wherein the memory store operational instructions that, when processed by the processing module, cause the processing module to [(a) receive formatted data; (b) decode the formatted data in accordance with a second data transport protocol of the multiple data transport protocols to recapture first formatted data and first data transport identifying information; and (c) decode the first formatted data in accordance with a first data transport protocol or the multiple data transport protocols based on the first data transport identifying information to recover data]

receive infrared (IR) encoded and IR formatted data via an IR transmission path;

IR decode the IR encoded and IR formatted data to recapture IR formatted data, wherein the IR formatted data includes IR transport identifying information;

packetize the IR formatted data in accordance with universal serial bus (USB) data transport protocol to produce USB packets;

transport the USB packets via a USB port to produce transported USB packets;

depacketize the transported USB packets to recapture the IR formatted data; and

decode the IR formatted data in accordance with an IR data transport protocol based on the IR identifying information to recover data.

8. (amended) The data communication device of claim 7[, wherein the multiple data transport protocols include] further comprises:

the IR data transport protocol including [at least two of: slow speed universal serial bus (USB), an infrared transport protocol, fast speed USB,] slow IR in accordance with an IrDA specified infrared data transport protocol, medium IR in accordance with the IrDA specified infrared data transport protocol, fast IR in accordance with the IrDA specified infrared data transport protocol, and amplitude shift keying (ASK)[.]; and

the USB data transport protocol including a slow speed USB data transport protocol and a fast speed USB data transport protocol.

9. (amended) The data communication device of claim 7 [8], wherein the [first data transport protocol is the slow IR, medium IR, or the fast IR in accordance the IrDA specified infrared data transport protocol and the second data transport protocol is the slow speed USB or the fast speed USB, and wherein step (b)] IR decoding of the IR formatted data further comprises decoding an IR frame delineation information as the [data transport] IR identifying information.

13. (amended) A digital storage medium for storing operational instructions that, when read by a processing module [unit], cause the processing module [unit] to transport data utilizing multiple data transport protocols, the digital storage medium comprises:

[first storage means for storing operational instructions that cause the processing module to receive formatted data;;

second storage means for storing operational instructions that cause the processing module to decode the formatted data in accordance with a second data transport protocol of the multiple data transport protocols to recapture first formatted data and first data transport identifying information; and;

third storage means for storing operational instructions that cause the processing module to (c) decode the first formatted data in accordance with a first data transport protocol or the multiple data transport protocols based on the first data transport identifying information to recover data.]

first storage means for storing operational instructions that cause the processing module to receive infrared (IR) encoded and IR formatted data via an IR transmission path;

second storage means for storing operational instructions that cause the processing module to IR decode the IR encoded and IR formatted data to recapture IR formatted

data, wherein the IR formatted data includes IR transport identifying information;

third storage means for storing operational instructions that cause the processing module to packetize the IR formatted data in accordance with universal serial bus (USB) data transport protocol to produce USB packets;

fourth storage means for storing operational instructions that cause the processing module to transport the USB packets via a USB port to produce transported USB packets;

fifth storage means for storing operational instructions that cause the processing module to depacketize the transported USB packets to recapture the IR formatted data; and

sixth storage means for storing operational instructions that cause the processing module to decode the IR formatted data in accordance with an IR data transport protocol based on the IR identifying information to recover data.

14. (amended) The digital storage medium of claim 13[, wherein the multiple data transport protocols include] further comprises:

the IR data transport protocol including [at least two of: slow speed universal serial bus (USB), an infrared transport protocol, fast speed USB,] slow IR in accordance with an IrDA specified infrared data transport protocol, medium IR in accordance with the IrDA specified infrared data transport protocol, fast IR in accordance with the

IrDA specified infrared data transport protocol, and amplitude shift keying (ASK)[.]; and

the USB data transport protocol including a slow speed USB data transport protocol and a fast speed USB data transport protocol.

15. (amended) The digital storage medium of claim 13 [14], wherein the [first data transport protocol is the slow IR, medium IR, or the fast IR in accordance the IrDA specified infrared data transport protocol and the second data transport protocol is the slow speed USB or the fast speed USB, and wherein step (b)] IR decoding of the IR formatted data further comprises decoding an IR frame delineation information [(e.g., preamble, start and stop flags)] as the [data transport] IR identifying information.

OIPE JC178 MAR 18 2003 PATENT & TRADEMARK OFFICE

For the foregoing reasons, the applicant believes that claims 1 - 4, 7 - 10, and 13 - 15 are in condition for allowance and respectfully request that they be passed to allowance.

The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication would advance the prosecution of the present invention.

RESPECTFULLY SUBMITTED,

By: _____

Timothy W. Markison
Registration No. 33,534
Phone: (512) 342-0612
Fax No. (512) 342-1674

CERTIFICATE OF MAILING
37 C.F.R 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, DC 20231, on the date below:

3-13-03
Date

Diane Hudson
Signature